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Appl. No. 09/784,233

REMARKS

Claims 65-72, 74-77, 81-82 and 84-85 are pending in the application.

Claims 65 and 68-69 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 11204524 ('524). The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 65 and 68-69 are allowable over '524 for at least the reason that the reference fails to disclose each and every element in any of those claims.

Each of independent claims 65 and 68 recites a physical vapor deposition target consisting of an alloy of copper and silver, where silver is present in the alloy at from less than 1.0 at% to 0.001 at%. The Examiner indicates that these features are anticipated by '524 and references paragraph 42. However, paragraph 42 of the '524 reference discloses a copper alloy film 108. The '524 disclosure of a copper alloy film does not anticipate the claims 65 and 68 recited physical vapor deposition target. Further, applicant notes that '524 disclosure specifically indicates that copper alloy film 108 is formed by deposition of a copper alloy film 106 which includes silver, and chemical vapor deposition of an overlying copper layer 107, followed by diffusion of silver into film 107 to form alloy film 108 (see abstract and paragraphs 36-38 and 44-45). The '524 reference indicates that the desired film 108 cannot be formed by sputtering since such technique does not provide the necessary step coverage. Accordingly, the '524 reference does not suggest the recited target where silver is present at from less than 1.0 at% to 0.001 at%, and claims 65 and 68 are not rendered obvious by '524.

Dependent claim 69 is allowable over '524 for at least the reason that it depends

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from allowable base claim 68.

Claims 66-67, 70-72, 81-82 and 85 stand rejected under 35 U.S.C. § 103(a) as being obvious over the combined disclosures of '524 and Kardokus, U.S. Patent No. 6,113,761. As indicated above, independent claims 65 and 68 are not rendered obvious by the '524 disclosure. Independent claim 71 recites a physical vapor deposition target consisting of an alloy of copper and silver where silver is present in the alloy at from less than 1 at% to 0.001 at%. Independent claim 81 recites a physical vapor deposition target consisting of copper and at least one of silver and tin where the at least one of silver and tin are present at from less than 1 at% to 0.001 at%. Independent claims 71 and 81 are not anticipated by or rendered obvious by the '524 disclosure for at least reasons similar to those discussed above with respect to independent claims 65 and 68.

As indicated at page 3 of the present Action, Kardokus is relied upon as disclosing a grain size in a copper-silver target of less than 50 microns. However, as acknowledged by the Examiner at page 3 of the Action, Kardokus does not disclose or suggest the recited silver and/or tin content of the present claims. Accordingly, as combined with the '524 disclosure, the Kardokus disclosure of a grain size of less than 50 microns in a copper material having a content of alloying elements which differs from that recited in the present claims does not contribute toward suggesting the claims 65, 68, 71 and 81 recited sputtering targets consisting of copper and from less than 1 at% to 0.001 at% of silver and/or tin. Accordingly, independent claims 65, 68, 71 and 81 are allowable over the combination of '524 and Kardokus.

Dependent claims 66-67, 70, 72, 82 and 85 are allowable over the combination of

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'524 and Kardokus for at least the reason that they depend from corresponding allowable base claims 65, 68, 71 and 81.

Claims 74-77, 81-82 and 84 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kardokus and '524 as further combined with JP 01096374 ('374). As indicated above, independent claim 81 is not rendered obvious by the combination of '524 and Kardokus. Independent claim 74 recites a physical vapor deposition target consisting of copper, from less than 1.0 at% to 0.001 at% Sn and optionally silver. Claim 74 is not rendered obvious by the combination of Kardokus and '524 for at least reasons similar to those discussed above with respect to independent claims 65, 68, 71 and 81. The Examiner indicates at pages 3-4 of the Action that the '374 reference is relied upon as showing that "higher contents of stabilizers such as Sn and Ag respectively are known in the sputtering art". Applicant notes however that the '374 reference teaches a target material 1 (composition unspecified) bonded to a cladding sheet comprising copper and one or more elements which can include, for example, Sn. The copper cladding sheet disclosed by '374 which facilitates separation of the target from the backing plate, does not contribute toward suggesting the claims 74 and 81 recited physical vapor deposition targets comprising an alloy of copper and from less than 1.0 at% to 0.001 at% of Sn and/or Ag. Accordingly, independent claims 74 and 81 are not rendered obvious by the cited combination of Kardokus '524 and '374 and are allowable over these references.

Dependent claims 75-77 and 82 and 84 are allowable over the cited combination of Kardokus, '374 and '524 for at least the reason that they depend from corresponding

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allowable base claims 74 and 81.

For the reasons discussed above, pending claims 65-72, 74-77, 81-82 and 84-85 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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By: Jennifer J. Taylor

Jennifer J. Taylor, Ph.D.

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